Acta Zootaxonomica Sinica, 28 (4): 737 - 740 (Oct., 2003) ISSN 1000-0739
动物分类学报

TAXONOMIC STUDY ON CHINESE MEMBERS OF THE ANT GENUS STRUMIGENYS F. SMITH (HYMENOPTERA, FORMICIDAE) FROM THE MAINLAND OF CHINA

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Abstract The taxonomy of 8 species of the genus Strumigenys from mainland China is reviewed. One species, S. jiangxiensis sp. nov., is new to science and another, S. strygax Bolton, is a new record for China. Four species misidentified by Zhou in "Ants of Guangxi" and by Xu in "A Study on the Biodiversity of Formicidae Ants of Xishuangbanna Nature Reserve" are corrected, i. e. S. lewisi Cameron misidentified as S. hispida Lin et Wu, S. rallarhina Bolton misidentified as S. leptorhina Bolton, S. strygax Bolton misidentified as S. lyroessa (Roger), and S. exilirhina Bolton misidentified as S. feae Emery. A key to the known species of the genus found on the Chinese mainland is provided.

Key words Formicidae, Strumigenys, taxonomy, new species, China.

The genus Strumigenys F. Smith is one of the largest genera in the Family Formicidae. In 2000, Bolton revised the genus and recognized 466 species, among these 220 were distributed in the Malesian-Oriental-East Paleaerctic Region. 7 species have been reported on the Chinese mainland to date (Tang et al., 1995; Zhou, 2001; Xu, 2002), among which 4 have been misidentified. In 1996, Lin et al. revised Taiwanese species and reported 10 species. In 2001, Lin et al. described 3 new species from Taiwan Province. Up to date, 13 species have been recorded in Taiwan. Examination of specimens collected in Guangxi, Guangdong, Hunan, Guizhou, Yunnan and Jiangxi Provinces during 1998-2002 revealed both a new species and a new Chinese record. 2 species misidentified by Zhou (2001) in "Ants of Guangxi", and another 2 species misidentified by Xu (2002) in "A Study on the Biodiversity of Formicidae Ants of Xishuangbanna Nature Reserve" are corrected. The species misidentified as S. hispida Lin et Wu is S. lewisi Cameron, S. leptorhina Bolton is S. rallarhina Bolton, S. lyroessa (Roger) is S. strygax Bolton, and S. feae Emery is S. exilirhina Bolton. A key to the known species found on the Chinese mainland, based on the worker caste, is provided.

Type specimens of the new species are deposited in the Insect Collection of Guangxi Normal University, Guilin, China.

The standard measurements and indices are as in Bolton (2000): total length (TL), head length (HL), head width (HW), cephalic index (CI = HW × 100/ HL), mandible length (SL), mandible index (MI = ML ×100/ HL), scape length (SL), scape index (SI = SL ×100/ HW), pronotum width (PW), alitrunk length (AL). All the measurements express in millimeter.

Key to known Strumigenys species from the Chinese mainland (based on worker caste)

1. Mandible in full-face view without preapical tooth or trace of denticle 2
   Mandible in full-face view with preapical tooth, although sometimes it is small and even no more than a prominent angle 3
2. Vertex without standing flagellate hair; mandible in full-face view not widened near its apex; disc of postpetiole 1.3 times as broad as long (China: Jiangxi) .... S. jiangxiensis sp. nov. (Figs. 1-2)
   Vertex with 2 pairs of standing flagellate hairs; mandible in full-face view widened near its apex; disc of postpetiole as broad as long (China: Guangxi) .... S. pilosa (Figs. 3-4)
3. Alitrunk in profile with the propodeal declivity equipped with a broad spogiform lamella; the lamella conspicuous and subtending the ventral margin of the propodeal tooth for all of its length 4
   Alitrunk in profile with the propodeal declivity equipped with a simple carina that does not subtend the ventral margin of the propodeal tooth for all of its length 5
4. Dorsal margin of propodeal tooth surmounted by a conspicuous convex lobe of spongiform tissue throughout its length (China: Yunnan, Taiwan) .... S. nanzanensis (Figs. 5-6)
   Dorsal margin of propodeal tooth free, not bearing a convex lobe of spogiform tissue (China: Shandong, Zhejiang, Shanghai, Hunan,

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The study is supported by Guangxi Natural Science Foundation (GKJ 0236015).
Received 17 Feb. 2003, accepted 20 June 2003.

Guizhou, Guangdong, Guangxi, Taiwan. Japan; Burma) ……………………………………………………… S. lewisi (Figs. 7-8)

5. Preapical tooth of mandible spiniform and shallowly curved, its length about one-third greater than the maximum width of the mandible (China: Guangxi, Hong Kong. Vietnam) …………………………………………………… S. rallarhina (Figs. 9-10)

Preapical tooth of mandible not spiniform, but varying from a denticle to a triangular tooth ……………………………………………… 7

7. Dorsal (outer) surface of hind basitarsus without long fine erect flagellate hair (China: Yunnan. Thailand, Malaysia, Indonesia) ……………………… S. strygax new record to China (Figs. 11-12)

Dorsal (outer) surface of hind basitarsus with one or two long fine erect flagellate hairs ……………………………………………… 8

8. Inner margin of mandible forming a more or less straight line from its base to the apex of the preapical tooth. Proximal margin of preapical tooth a continuation of line of inner margin of mandible proximal to it; preapical tooth scarcely more than a prominent angle and not directed medially (China: Guangxi, Taiwan) …………………………………………………… S. formosensis (Figs. 13-14)

Inner margin of mandible small, but not forming a staight line from its base to the apex and directed medially. Proximal margin of preapical tooth diverging strongly from line of inner margin of mandible proximal to it (China: Yunnan, Hong Kong. Nepal, India, Bhutan, Thailand, Japan) …………………………… S. exilirhina (Figs. 15-16)

1 Strumigenys jiangxiensis sp. nov. (Figs. 1-2)

Holotype worker. TL 3.1, HL 0.72, HW 0.56, CI 77, ML 0.35, MI 48, SL 0.38, SI 67, PW 0.31, AL 0.81. Head longer than broad, ventrolateral margin at level of eye regular. Antenna with 6 segments. Mandible in full-face view without preapical tooth, apex with two spiniform teeth arranged in a vertical series and without intercalary tooth or denticle. Dorsolateral margin of head in full-face view with 4 freely projecting fine flagellate hairs: one just posterior to the level of the eye, one in apicoscrobal position, other two between apicoscrobal position and the occipital corner. Vertex without standing hairs. Dorsum of head and alitrunk coarsely densely reticulate-rugulose and punctate, the reticulae moderately large and deep, and the same area mentioned above covered with a thick pelt of short curved ground pilosity, appearing furry. Side of pronotum irregularly deeply rugulose and coarsely punctate, matepleuron smooth. Side of propodeum finely rugulose and punctate. Pronotal humeral hair long and flagellate, length 0.2 mm, more than half length of the mandible. Dorsum of pronotum with 2 pairs of flagellate hairs apart from the humeral ones; mesonotum with 2 pairs of long flagellate hairs. Petiole and postpetiole with flagellate hairs, three pairs on each of them. Dorsal surfaces of femora and tibiae with sparse erect flagellate hairs; ventral surface of femora with a few similar hairs; dorsal (outer) surface of hind basitarsi with two very long projecting erect flagellate hairs that are much longer than the maximum width of the segment from which they arise, middle tarsi without hair. Propodeal tooth triangular, acute at tip. Petiolar node in dorsal view longer than broad, ventral surface with a longitudinal spongiform curtain broader than the maximum height of the peduncle; disc of postpetiole 1.3 times as broad as long, both with dense reticulate-punctate sculptures. Lateral spongiform lobes of petiole in dorsal view terminate well posterior of the anterior slope of the node, reaching half the length of the petiolar node. Petiole in profile subclavate; node without an anterior face differentiated from the peduncle, the two forming a single uninterrupted surface. First gastral tergite with many erect long flagellate hairs, with the surface bare between the erect long hairs, basitergite with short costulae.

Holotype worker, China: Jiulian Shan Natural Reserve, Jiangxi Province, 20 Aug. 2000, ZHOU Shan-Yi legs.

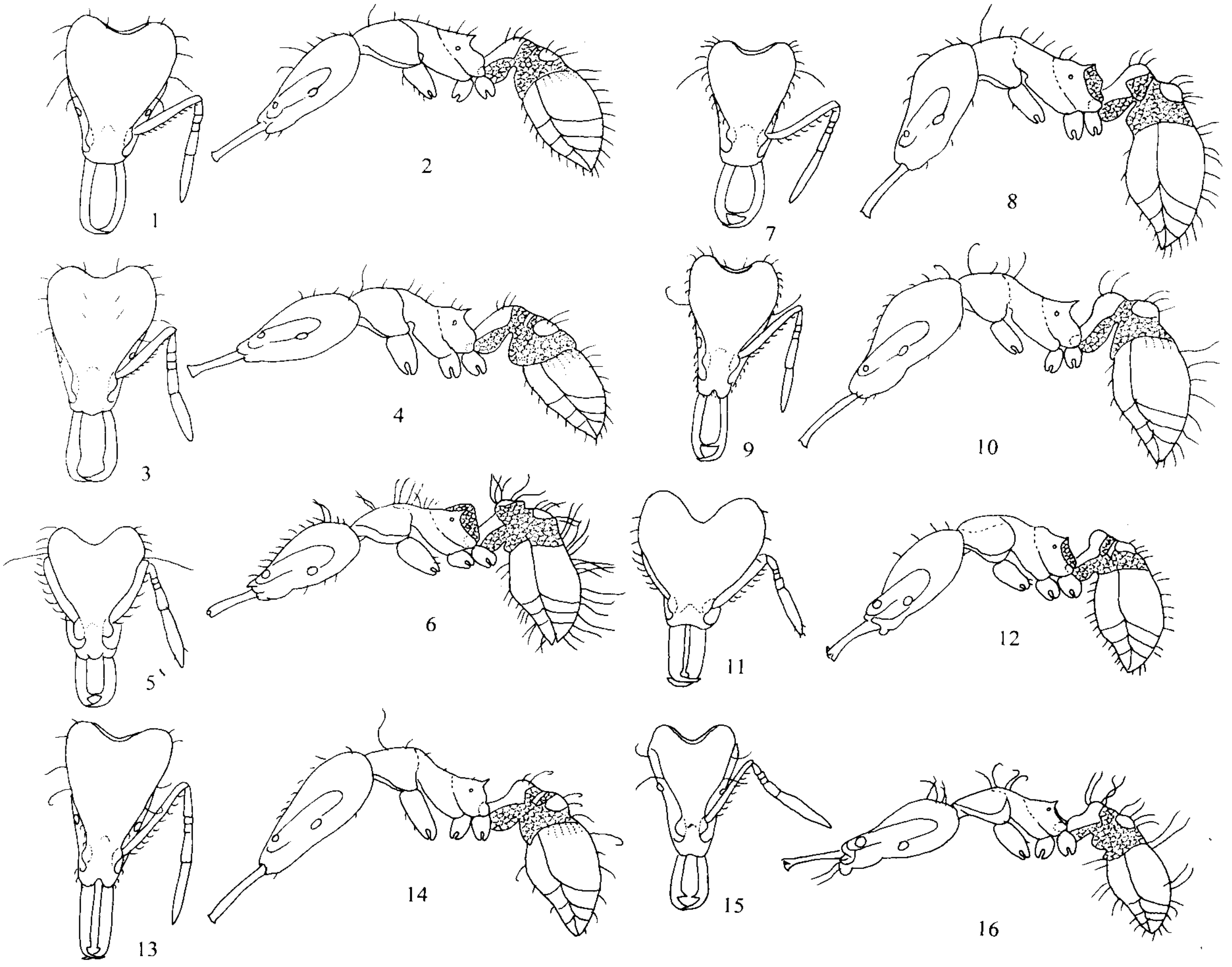
The new species resembles S. heteropha Bolton, but can be distinguished from the later by the number and arrangement of flagellate hairs on the dorsolateral margin of the head, vertex without standing hair, middle tarsi without flagellate hair, and dorsum of head and alitrunk coarsely reticulate-rugulose and punctate. It also differs from S. pilosa Zhou by vertex without standing hair, mandible in full-face view not widened near its apex, and disc of postpetiole 1.3 times as broad as long.

2 Strumigenys strygax Bolton New record to China (Figs. 11-12)

Strumigenys strygax Bolton, 2000a. Mem. Amer. Ent. Inst., 65 (1): 853. Syntype worker, Thailand.

Pronotum without a pair of short standing hairs close to anterodorsal margin. Pronotal humeral hair stiff, straight and simple. A single erect pair of hairs on mesonotum. Katepisternum, metapleuron and side of propodeum smooth except for weak reticulate or reticulate-punctate sculpture around the periphery. Bullae of femoral glands absent on middle and hind legs. Lamella on propodeum conspicuous. Standing hairs on first gastral tergite weakly spatulate or slightly expanded and flattened toward the apex.

Acknowledgements We would like to thank Dr. Barry Bolton (British Natural History Musem), Dr. LIN Chung-Chi (National Taiwan University) for their kindness of sending us publications. Thanks to Mr. HUANG Jian-Hua (Guangxi Normal University)



Figs. 1-16. Strumigenys worker. 1-2. S. jiangxiensis sp. nov. 3-4. S. pilosa Zhou. 5-6. S. nanzanensis Lin et Wu. 7-8. S. lewisi Cameron. 9-10. S. rallarhina Bolton. 11-12. S. strygax Bolton. 13-14. S. formosensis Forel. 15-16. S. exilirhina Bolton. 1, 3, 5, 7, 9, 11, 13, 15. Head in full-face view. 2, 4, 6, 8, 10, 12, 14, 16. Body in profile view.

for collecting specimens. Thanks also to Dr. JIANG Guo-Fang (Nanjing Normal University) and Professor LI Zi-Zhong (Guizhou University), SHEN Xiao-Cheng (Henan Academy of Agricultural Sciences) for inviting us to collect ant specimens.

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中国大陆瘤颚蚁属分类研究（膜翅目，蚁科）

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摘　要　记述中国大陆瘤颚蚁属 Strumigenys 8 种，其中 1 新种，江西瘤颚蚁 S. jiangxiensis sp. nov.，粗瘤颚蚁 S. strygax Bolton 为中国新纪录种。提出《广西蚂蚁》和《西双版纳自然保护区蚁科昆虫生物多样性研究》中记载的 4 个误订种，即刘氏瘤颚蚁 S. lewisi Cameron 误订为粗糙瘤颚蚁 S. hispida Lin et Wu，薄帘瘤颚蚁 S. rallarhina Bolton 误订为异形瘤颚蚁 S. leptorhina Bolton，粗瘤颚蚁 S. strygax Bolton 误定为琴状瘤颚蚁 S. lyroessa (Roger)，长瘤颚蚁 S. exilirhina 误定为费氏瘤颚蚁 S. feae Emery。编制了中国大陆瘤颚蚁属已知种工蚁的分类检索表。

关键词　蚁科，瘤颚蚁属，分类，新种，中国.

中图分类号　Q969.554.2